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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,693	11/10/2003	Mark Anthony Aubart	IR 3663 CIP	5227

31684 7590 11/16/2006

ARKEMA INC.
PATENT DEPARTMENT - 26TH FLOOR
2000 MARKET STREET
PHILADELPHIA, PA 19103-3222

EXAMINER

SANDERS, KRIELLION ANTIONETTE

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 11/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/705,693

Applicant(s)

AUBART ET AL.

Examiner

Kriellion A. Sanders

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/6/ has been entered.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicant's amendment to the claims, which changes the term polymer to terpolymer, presents new matter in that terpolymers are not described in the original specification or claims.

Claims 1-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant

Art Unit: 1714

art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The term "terpolymer" now included in applicant's claims was not described in the original specification or claims so as to convey that applicant had possession of this component of the invention at the time the application was filed. Applicant's specification at the last paragraph of page 5, indicates that applicant intends to use copolymers in the invention rather than terpolymers.

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claim 1 recites the limitation "terpolymers" in line 1. There is insufficient antecedent basis for this limitation in the claim. Line 9 of the original claim as well as the currently amended claim indicate that the polymers intended in the invention are copolymers.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

a. A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gitlitz et al, US Patent No., 4,593,055.

Art Unit: 1714

3. The rejection is repeated for reasons of record. Applicant's invention pertains to a copolymer of formula $-[A]-[B]-$, wherein A comprises $XSiR_3$ and B is a residue of an ethylenically unsaturated monomer. The claims also indicate that the polymers have an erosion rate in seawater that is further set forth in claims 2, 3 and 8 as 2-15 microns per month.

Gitlitz et al discloses erodible antifouling marine paints, which include an organosilyl acrylate copolymer therein. The organosilyl acrylate copolymers of the patent correspond directly to those of applicant's claims and are produced from the copolymerization of organosilyl silyl acrylate or methacrylate and one or more ethylenically unsaturated monomers. The molar amount of organosilyl silyl acrylate or methacrylate monomer to ethylenically unsaturated comonomer, ranges from 10 to 80 parts per 100 parts of copolymer. See col. 3, line 25 through col. 5, line 37.

The erosion rate of the final paint is said to depend upon the total contributions of functional groups, comonomers and other components in the paint. It would have been obvious to one of ordinary skill in the art to produce an erodible antifouling marine paints, which includes an organosilyl acrylate copolymer therein and select specific functional groups, comonomers and other components within that paint so as to obtain an erosion rate in salt water of 2-15 microns per month.

Because Gitlitz et al suggests the components and weight percentages of the presently claimed compositions, the resulting polymers produced from these suggested components would inherently possess an erosion rate in seawater suitable for use as a binder in a marine antifouling paint.

Response to Arguments

1. Applicant's arguments filed 9/06/06 have been fully considered but they are not persuasive.

Applicant avers that Gitlitz et al does not teach every element of the present claims and therefor does not present a prima facie case of obviousness. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

2. Applicant argues that the present claims require an erosion rate of the terpolymer in seawater of from 2-15 microns per month, while the antifouling paint compositions of Gitlitz have an erosion rate in seawater of at least 2 microns per month. Applicant suggests that the erosion rates of Gitlitz are based upon the total paint composition, whereas the erosion rates of the present claims are based just upon the terpolymer. First of all applicant is advised that the present claims do not find support for the term "terpolymer". Furthermore, upon reconsideration, the disclosure at col. 8, lines 45-47 of Gitlitz indicates that the paint compositions have an erosion rate of at least 2 microns of paint film thickness per month. This would indicate that the thickness of the paint film erodes at a rate of at least 2 microns per month. Applicant is advised that according to Gitlitz, the paint film is composed of a copolymer binder as depicted by the

Art Unit: 1714

formula of claim 1. That copolymer binder is essentially the same as the copolymers of applicant's claims. Therefor, Gitlitz discloses that the copolymer binder of the patented invention have an erosion rate of at least 2 microns per month. There is no clear differentiation between the units of erosion of applicant's claims and the units of erosion of Gitlitz. Both erosion rates are based upon the copolymers. The Gitlitz erosion rates overlap and encompass the erosion rates of applicant's claims, which are specified as being from 2-15 microns. Applicant is mistaken in alleging that the erosion rate specified in Gitlitz is based upon the interaction of the components of the total paint composition.

3. Applicant argues that Gitlitz fails to teach or suggest that a copolymer containing 9 to about 20 mole percent of triarylsilyl(meth)acrylol groups can be used in a marine antifouling paint and have an erosion rate in sea water of from 2-15 microns per month. Applicant further argues that Gitlitz teaches away from applicant's claims by exemplifying only polymers having 20 percent or more of any organosilyl groups. These arguments have not been found to be persuasive because if as applicant states, Gitlitz exemplifies only polymers having 20 percent or more of any organosilyl groups, then applicant's claim limitations have been met since the requirement for 20 percent or more organosilyl groups of Gitlitz overlaps the 9 to about 20 mole percent of triarylsilyl(meth)acrylol groups of applicant's claims. However claim 7 of Gitlitz teaches that the specific organosilyl moiety of claim 1 of the patent is present in an amount of 10-80 molar parts based on the copolymer binder. It is believed that applicant's molar ratio of triarylsilyl(meth)acrylol groups is met by patentee's claims 1 and 7.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1-21 are provisionally rejected on the ground of nonstatutory double patenting over claims 1-17 of copending Application No. 10/442,461. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The referenced copending application and the instant application are claiming common subject matter, as follows: Because the components of both applications are essentially the same the present application is expected to possess the same functional properties in improved flexibility as the '461 application, even though said properties are not claimed. The present claims indicate that B represents one or more ethylenically unsaturated monomer copolymerizable with A. This limitation would suggest that B might include as many as two or more ethylenically unsaturated monomer copolymerizable with A.

Art Unit: 1714

4. A terminal disclaimer or other indication of patentability is necessary to overcome this rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kriellion A. Sanders whose telephone number is 571-272-1122.

The examiner can normally be reached on Monday through Thursday 8:30am-7:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Kriellion A. Sanders
Primary Examiner
Art Unit 1714